

REMARKS

Responsive to the Office Action mailed 25 February and with an extension of time to reply of one month, the present paper is timely filed on or before 25 June 2009.

By the present paper, claim 1 is amended and claim 15 is cancelled. Claims 2-4 and 7-9 were previously cancelled and claims 6 and 11 - 14 were withdrawn by the Examiner. Claims 1, 5, and 10 are under examination.

Entry of the claim amendments and reconsideration of the Application are respectfully requested.

The Claim Amendments:

Claim 1 is amended to incorporate the limitations from cancelled claim 15, which previously depended from claim 1. Support for the amendment is apparent in the claims themselves. Applicants respectfully submit the amendments do not introduce new matter.

Claim Rejections Under 35 U.S.C. §§ 102, 103:

Claims 1, 5 and 8-10 [*sic*] were rejected as anticipated by or in the alternative as obvious over Lorey et al., U.S. 4,995,974. Because Lorey et al. neither teaches nor suggests all of the elements and limitations of Applicants' claims, Applicants respectfully traverse.

Claim 1 is drawn to a water separation device having an inner and outer members. The inner, tubular member supports a membrane or filter and is closed at its lower end. The other member has a vent opening at an upper end thereof. Lorey et al. does not disclose these elements arranged as required by the claim. Lorey et al. does not anticipate claim 1. Neither does Lorey et al. render claim 1 obvious.

Applicants believe they are the first to achieve separation of organic solvent and water using a fluoropolymer membrane at ambient pressures. The present inventors were the first to discover the improvement attendant to providing a vent arranged as required by

claim 1 that requires, *inter alia*, an inner tubular member closed at its lower end, and fitted in an outer tube having a vent at its upper end.

Lorey discloses a separation element having a tubular member and an outer tube (elements [12] and [14], respectively), both of which support hydrophobic filter or membrane layers. Inner tube, formed by [12], is open at a lower end (*see* large arrow at bottom of figure 1). The flow in the separation element of Lorey et al is from outside to inside.

Lorey et al. neither teaches nor suggests a tube-in-tube a water separator that has a closed inner tube and a vent at an upper portion of an outer tube that encircles the inner tube, leaving a small passage sufficient to pass fluid.

In the dual-membrane separator element of Lorey et al., flow is direct outward-in and the flow-path is “open” in the direction of flow, a vent is irrelevant to the device of Lorey et al. and, accordingly, Lorey et al. cannot suggest a vent. The inner tubular member of Lorey et al. could not be closed as required by Applicants’ claims because the device would no longer function.

Applicants respectfully submit that the modifications to the separator element of Lorey et al. required to arrive at Applicants’ inventive separator, as urged by the Office, are based on hindsight reconstruction and are in any event improper because they would change the principal of operation of the separator element of Lorey et al. and, worse, would render it inoperative. For at least this reason, claim 1 is not obvious over Lorey et al.

The remaining claims depend from claim 1 and introduce further limitations and, accordingly, are likewise not obvious over Lorey et al.

Claim Rejections Under 35 U.S.C. § 103:

Claims 1, 4, 5, 8-10 [*sic*] and 15 were rejected as allegedly obvious over Scott P. Hunicke-Smith, published U.S. Patent Application 10/183,299, published as US

2002/0185429 (Hunicke-Smith) in view of LeVoy G. Haight, U.S. 6,758,971 (Haight). Applicants respectfully traverse.

Hunicke-Smith discloses a filter device for a microcentrifuge in which a porous centrifuge tube [103] is fitted with a semi-permeable filter [102]. The Office's unsupported conclusion the Hunicke-Smith discloses a vent is improper as a matter of law and of fact.

The Office asserts that because the collar [119] at the top of the [103] is supported by but not welded or somehow securely fastened to the upper half [108] of assembly [110], Hunicke-Smith must inherently disclose a vent. Inherency cannot be based on mere possibilities and the Office's conclusion is not one that would be instantly recognized as brooking no debate. The tube and its contents have weight and would exert compressive forces on the flange. The Office's assumption that mating surfaces are *ipso facto* leaky is extravagant and not supported by a reasoned statement sufficient to rise above a mere possibility and is therefore legally insufficient.

Moreover, the Office ignores that tube [103], the filter [102], and the liquid held by the combination have mass. Gravitational forces alone would compress the flange against its support. The centrifugal forces generated during use would multiply the compressive force many times over. Even *if* a handful of molecules *did* manage to "escape" along the interface between flange and support, the skilled artisan would not consider the interface as a "vent", as that term is known in the art and as it is used in Applicants' claims.

Haight discloses an air vent [35] protected by a layer of hydrophobic material. The covered vent of Haight serves to allow escape of air trapped in circulating blood. There is no flow of liquid through the hydrophobic material. Indeed, such flow would be highly undesirable. There is no motivation to combine features of a device, like that of Haight in which fluid flow through a filter or membrane is undesirable with those of a device, like that of Hunicke-Smith, in which flow through the membrane is a specific objective.

Furthermore, the modification urged *sub silencio* by the Office - removal of the vent cover from the device of Haight is counter to the function of the device of Hunecke-Smith. For at least these reasons, Applicants respectfully submit that the rejection of claim 1 and claims depending therefrom is improper and should be withdrawn.

Claims 1, 4, 5, 8-10 [*sic*], and 15 were rejected as allegedly obvious over Shelia H. DeWitt, U.S. 6,183,645 (DeWitt) in view of Haight. Applicants respectfully traverse.

The relevance *vel non* of Haight is discussed above.

There is no vent in the filter of DeWitt, which, because of differences in densities, could not in any event, is not closed at the bottom and cannot be used with all combinations of water and organic solvent. Organic solvent cannot be separated under atmospheric pressure. If the opposite were true, there would be no need for Applicants' device. But as Applicants discuss in their specification, there has been a need for such a device and smooth separation cannot be achieved with a device unless the features required by claim one are arranged as required by claim 1.

Conclusion:

Based on the forgoing amendments and remarks, Applicants respectfully submit that the claims are now in condition for allowance, which allowance is earnestly solicited. If, in the opinion of the Examiner, a telephone conference would advance prosecution of the application, the Examiner is invited to telephone the undersigned attorneys.

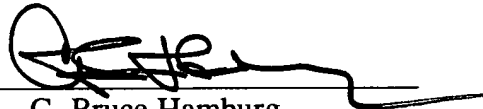
REQUEST FOR EXTENSION OF TIME

Applicants respectfully request a one-month extension of time for responding to the Office Action. The fee of \$ 130.00 for the extension is provided for in the charge authorization presented in the PTO Form 2038, Credit Card Payment form, provided herewith.

If there is any discrepancy between the fee(s) due and the fee payment authorized in the Credit Card Payment Form PTO-2038 or the Form PTO-2038 is missing or fee payment via the Form PTO-2038 cannot be processed, the USPTO is hereby authorized to charge any fee(s) or fee(s) deficiency or credit any excess payment to Deposit Account No. 10-1250.

Respectfully submitted,

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